

ABSTRACT

Methods of inducing apoptosis in hyperproliferative cells, particularly cancer cells are provided. Such method involves increasing the levels of a potassium channel modulatory protein in the cell. Examples of such proteins are native KChAP protein, a biologically active variant of native KChAP protein, or a biologically active KChAP -related protein (collectively referred to hereinafter as "KChAP protein"). In one embodiment, the cells are contacted with the KChAP protein under conditions permitting uptake of the protein by the cells. In another embodiment, the cells are contacted with (i) a nucleic acid encoding the KChAP protein, and (ii) a promoter active in the cancer cell, wherein the promoter is operably linked to the region encoding the KChAP protein, under conditions permitting the uptake of the nucleic acid by the cancer cell. Methods of detecting cancerous cells in a biological sample selected from the group consisting of a colorectal tissue sample or brain tissue sample are also provided. Such method comprises assaying for the presence of elevated levels of KChAP mRNA or KChAP protein in the sample.